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IN THE SPECIFICATION:

A~~The~~ synchronization technique ~~invention uses inherent characteristics of the frequency-domain representation of the data symbols. By computing~~ computes, in the frequency domain, a differential-in-frequency function across a large number of OFDM tones~~,~~ to develop robust estimates of time and frequency offset ~~can be easily obtained~~. The technique ~~also~~ allows the system designer to directly trade performance in the presence of channel impairments against signal processing complexity. ~~Analysis and simulation have shown good performance in the presence of noise and channel delay dispersion, impairments that are the harshest in a wireless environment.~~

~~Prior techniques for OFDM synchronization have focussed on the time-domain representation of the signal. Those that have recognized the translation of time and frequency offset to the frequency-domain have not considered the systematic modification of the signal by the offsets.~~

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